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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,049	08/09/2001	Takeo Tanaami	010814	4111

7590 11/30/2004  
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EXAMINER

BEISNER, WILLIAM H

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/927,049

Applicant(s)

TANAAMI, TAKEO

Examiner

William H. Beisner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004 and 14 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 50-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 50,52,55,59,61 and 64 is/are rejected.
- 7) ☒ Claim(s) 51,53,54,56-58,60,62,63 and 65-67 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The indicated allowability of the claims including the limitation of electrodes "provided with protrusions" is withdrawn in view of the reference(s) to Heller et al.(US 5,605,662).

Rejections based on the newly cited reference(s) follow.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 50, 52, 55, 59, 61 and 64 are rejected under 35 U.S.C. 102(b) as being anticipated by Heller et al.(US 5,605,662).

With respect to claim 50, the reference of Heller et al. discloses a hybridization detection device that includes a container, the container is defined by elements (59), (54) and the permeation layer (See Figures 5 and 6), that contains known biopolymer segments (See binding entities of Figures 5 and 6) fixed onto an inner wall (permeation layer) of the container which bind with unknown biopolymer segments existing in a solution contained within the container. The container is removable relative to the measuring device (electrode circuit board (52) is removable relative to the container structure) where the measuring device includes one or more electrodes (62) disposed adjacent the container for applying an electric field to the container.

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The electrodes (62) are electrically insulated (See column 14, lines 52-60) from the container and include protrusions (62, See Figure 6) formed at spatial positions (See microlocations (55) of Figures 5 and 6) corresponding to the locations of fixed known biopolymer segments.

With respect to claims 52 and 61, the reference discloses the use of a number of biopolymers, including DNA and RNA (See column 16, lines 47-67).

With respect to claims 55 and 64, part of the container structure includes the use of a film structure (permeation layer, See column 15, lines 3-23).

With respect to claim 59, the disclosed system includes a structure for altering the direction of the electric field from removing unbound biopolymers (See column 16, lines 6-9).

***Allowable Subject Matter***

4. Claims 51, 53, 54, 56-58, 60, 62, 63 and 65-67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 51 and 60, the prior art of record fails to teach or fairly suggest the combination of the claimed externally located electrodes having protrusions with additional conductive members provided on the container at the locations of the fixed known biopolymer segments.

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With respect to claims 53, 54, 56, 62, 63 and 65, the prior art of record fails to teach or fairly suggest a configuration as claimed wherein the electrodes having protrusions are in mechanical contact with the container.

With respect to claims 57, 58, 66 and 67, the prior art of record fails to teach or fairly suggest a configuration as claimed wherein the electrodes having protrusions are transparent and/or made of ITO film.

### ***Response to Arguments***

6. Applicant's arguments (See pages 1 and 2 of the response dated 16 Aug. 2004) with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

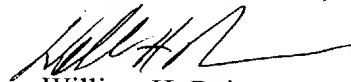
### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 571-272-1269. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:15am to 3:45pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on 571-272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Beisner  
Primary Examiner  
Art Unit 1744

WHB